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The Goddess Śītalā and Epidemic Smallpox in Bengal

RALPH W. NICHOLAS

White-bodied one, mounted on an ass, in your two
hands a broom and a full pot,
To mitigate fever, you asperse, from the full pot,
with the broom, the water of immortality.
Naked, with a winnowing fan on the head, your body
adorned with gold and many gems, three-eyed,
You are the quencher of the fierce heat of pustules;
Śītalā, I worship you.
(Nirmalānanda 1967: 196)

Thus is the worshiper directed to contemplate the Hindu Goddess of Smallpox. A disease that so often disfigured or blinded its victims, when it did not kill them, is serious enough to be granted its own deity in a pantheon of specialist gods and goddesses. But Śītalā is unlike the other Indian godlings of affliction, which are mostly localized and called by a great variety of names. Śītalā is known by a single name throughout the Indo-Aryan speaking region of India and Nepal (and by a small number of other names in South India). And she is usually the recipient of large-scale community worship by the villages in which she dwells.[1]

In rural southwestern Bengal, during the spring, her worship is carried out with as much splendor and celebration as each village can manage. "Śītalā," say the farmers and fishermen who predominate in that locality, "is the Mother of our village. She takes away the fear of smallpox." Most of these people have been vaccinated more than once, and the area has been free from smallpox for more than a decade. Moreover, many people think that smallpox is—or was—an infectious disease transmitted by an ineffable seed from an active case to a previously uninfected

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[1] Although I did not know it at the time, the research embodied in this paper was begun in 1960 when I first saw a performance of Nityānanda's *Śītalā Maṅgal* (1931) in a Midnapur village. In consequence of such a long period of work on the subject, I have accumulated more debts than usual, and I would like to acknowledge the major ones. Research was supported by a Foreign Area Training Fellowship, a Fulbright-Hays Research Fellowship, the Asian Studies Center at Michigan State University, and, at the University of Chicago, by the Committee on Southern Asian Studies, the Lichtstern Research Fund of the Department of Anthropology, and the U.S.P.H.S. Biomedical Research Support Grant to the Division of the Social Sciences. Many scholars have contributed to this research in ways so various that I cannot mention them here: I am especially indebted to K. C. Bahl, Dr. and Mrs. F. B. Bang, A. L. Basham, P. R. Brass, V. Das, E. C. Dimock, F. Fenner, R. D. Fogelson, E. Gadon, P. Gaffney, P. R. Greenough, R. B. Inden, J. Jepson, J. K. Kallgren, C. Leslie, M. Marriott, T. Mukhopadhyay, M. R. Nicholas, I. H. Rosenberg, A. N. Sarkar, D. Twells, and S. Wadley. The libraries of the University of Chicago and the India Office, London, are the sources of the items listed in the references.

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person. But such knowledge and experience seem to have no influence on their reverence for Śītalā.

Westerners have often supposed that the relationship between the goddess and the disease is direct, if mystical, so that the eradication of smallpox will bring with it the disappearance of Śītalā worship, if not of the goddess herself. Among the early travelers to India, to whom smallpox was a matter of intimate personal experience, there seemed little doubt that the source of the anxiety from which the goddess was generated lay in the terrifying visage of the victim, studded with fulminating pustules, disfigured almost beyond recognition, and, in the late stages of the infection, redolent of decaying flesh. If the horror of the sight could not be translated by reasonless Hindu superstition directly into a weird goddess, then "tradition" was invoked as well. James Moore, in his *History of the Small Pox,* reflected on a drawing of this goddess: "In a country, where every thought, word, and deed, are mere repetitions of those of their progenitors, a composition, like this, bears the stamp of great antiquity." It seemed to Moore, as it did to many others in nineteenth century Europe, that nothing in Oriental societies ever changed. He found a clear demonstration of this in the history of syphilis (the other pox, a disease too terrible for him to name), which was introduced into the East by the Portuguese, where it "spread widely, and produced inexpressible misery" but gave rise to no symbolic rites: "No image adorned with appropriate types has been erected in any Chinese or Hindoo temple: for invention has long abandoned these his primitive abodes" (Moore 1815: 34–35).

Although the Occidental assumption that India has no history has also now been long abandoned, it has continued to exercise a curious influence on the writing of the history of smallpox. J. Z. Holwell, the British East India Company physician who is best remembered for having survived imprisonment in the Black Hole of Calcutta, has been a particularly influential disseminator of the idea that smallpox was a part of the unchanging Indian landscape. In 1767 he addressed an "Account of the Manner of Inoculating for the Small Pox in the East Indies" to the College of Physicians in London. The portions of this paper that are based on Holwell's own observations are quite valuable, but it also includes the following paragraph:

> . . . [A]t the period in which the *Aughtorrah Bhade* [*Atharva Veda*] scriptures of the Gentoos were promulgated, (according to the Bramins three thousand three hundred and fifty six years ago;) this disease must then have been of some standing, as those scriptures institute a form of divine worship, with *Poojahs* or offerings, to a female divinity, stiled by the common people *Gootee ka Tagooran* [probably *guṭikā ṭhākurāṇī*] (the goddess of spots [smallpox, Skt. *guṭikā*]), whose aid and patronage are invoked during the continuance of the small pox season, also in the measles, and every cutaneous eruption that is in the smallest degree epidemical. Due weight being given to this circumstance, the long duration of the disease in Indostan will manifestly appear; and we may add . . . that not only the Arabians, but the Egyptians also, by their early commerce with India through the Red Sea and Gulf of Mocha, most certainly derived originally the small pox (and probably the measles likewise) from that country, where those diseases have reigned from the earliest known times. (p. 146)

While Sanskritists (Orth 1900: 392; Jolly 1901: 93) reported their inability to locate such worship in the *Atharva Veda* or any other ancient text, the history of disease went its own way, perhaps excessively ready to believe that a horrifying malady like smallpox originated in the hot, moist putrefaction of the tropics. It is

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difficult to say how many times Holwell's account has been repeated, but one of the most influential authors to do so was the cautious August Hirsch (1883: 125), who concluded that "although the origin of smallpox remains an unsolved problem . . . the *native foci of smallpox* may be looked for in *India* and in the countries of *Central Africa*" (p. 127).

Donald Henderson, chief medical officer of the World Health Organization (WHO) Smallpox Eradication Campaign, reiterated an expanded version of the story in 1976, adding to it the reasonable epidemiological speculation

> that in ancient times only the more densely populated areas of India and China were able to sustain the continued transmission of smallpox. If it was occasionally introduced in less populated central and western Asia, Europe and Africa, it might have persisted for a time in such a region as the Nile delta, but eventually the chain of transmission would have been broken. The slow pace of travel in pre-Christian times and the infrequency of long journeys could have served to confine smallpox largely to Asia during that period. (pp. 26–27)

And Holwell's speculation reappeared, with an added fillip, in the recently popular *Plagues and Peoples* (McNeill 1976):

> As for India, the existence of temples for worship of a deity of smallpox shows that the disease (or something closely akin thereto) was of considerable significance in Hindu India from time immemorial—however long that may be historically. Unfortunately, absence of records permits no account whatever of Indian encounters with infectious disease before 1200. (p. 144)

Indian medical texts, composed at various times over the period in which smallpox became known in the region, indirectly relate a great deal of the history of the disease. The history of smallpox in India and the history of the Hindu Goddess of Smallpox are, of course, quite different things. However, the interpretation by Hindus—both common people and intellectuals—of their experience of the disease and of divinities makes a connection between them. There are many interesting things to be learned from each of these histories, but what is least well understood—and, thus, most interesting of all—is their relationship. Pursuit of that relationship has led me into factual territory usually worked by anthropologists who claim they are not concerned with people's interpretations of natural phenomena, but rather with some order that is intrinsic in the phenomena (including the human participants) themselves.

A search for material causes behind the "mystification" of native religion is associated with methods of social and cultural analysis that assume that what a people "knows" is mostly false consciousness, but that their culture generally protects them from their ignorance by preadapting the relationship between their biological needs and their natural environment. This position—adopted by some cultural ecologists and "cultural materialists"—shows less respect for demonstrably pertinent facts than it appears to do: at most, it accords only subordinate importance to the natives' explanations of their own practices. There are aspects of ecology, epidemiology, and disease history discussed here that do not form part of the collective consciousness of Bengal. However, they are not, in my view, digits of an unseen hand that constructs a culture regardless of human understanding. The religious interpretation people in rural Bengal place upon infectious disease does not exclude a naturalistic comprehension. They would almost surely not produce all of the facts of biological history considered here, but their reverence for Śītalā does not require them to reject such facts.

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Smallpox

Two viruses of the genus *Orthopoxvirus* cause what is commonly known as smallpox among human beings. One of these, the variola minor poxvirus, causes a relatively mild form of the disease, sometimes called alastrim, that has a low case fatality rate. It seems to have been rare in India and will not be of concern here. Variola major smallpox has a case fatality rate of 20 to 40 percent, sometimes reaching 50 percent when exacerbated by malnutrition or secondary infections. This is the virus that has impinged most heavily on the lives and consciousness of people in India. There are related poxviruses that infect other animals, and, as is well known, it was Edward Jenner's observation that a limited cowpox infection conferred immunity from smallpox that led to the development of vaccination (Rhodes and van Rooyen 1958: 165–66; Dixon 1962: 1–7).

The virus enters the body through the upper respiratory tract and multiplies in the mucosa, passing into regional lymph nodes, from which it invades the blood and localizes in the internal organs where it undergoes further multiplication. At the end of the incubation period, which lasts from six to twenty-two days, averaging about twelve, there appears to be a massive release of viruses into the circulatory system. This phase is probably responsible for a typical smallpox prodrome that is well described in Indian texts: a sudden, sharp rise in temperature, severe headache and pains in the chest, back and limbs, vomiting, prostration, and, in particularly severe cases, a rash. From the third to the fifth day after the onset of the prodromal illness, the characteristic smallpox begin to appear on the body. The virus localizes in the skin, particularly the peripheral areas, the face, and the lower limbs, hands, and feet, although there may be some macules over all parts of the body. The lesions turn into papules that fill with fluid, becoming vesicles prone to secondary infections, for which reason they are commonly called pustules whether or not they contain pus. Temperature often falls to near normal with the appearance of the focal eruption and may remain there throughout the nine days or so it takes (if there is no secondary infection) for the pustules to be reabsorbed by the body. Victims who survive the preeruptive phase of the disease often recover unless the tissue destroyed by the eruption simply cannot be replaced rapidly enough. Rapid replacement of damaged tissue is dependent on the nutritional status of the host; the synergism of malnutrition and infection is responsible for the high fatality rates of smallpox epidemics in India (Rhodes and van Rooyen 1958: 166–69; Deutschmann 1961: 3; Dixon 1962: 5–43).[2]

Although there is some evidence of naturally occurring smallpox in monkeys and apes (Hahon 1961), recent epidemiological experience suggests that it is a "two-factor complex: virus and host" (Deutschmann 1961: 1), with neither an intermediate reservoir of infection in a nonhuman population nor any essential animal vector. Viruses are shed by smallpox victims from the epithelium beginning from the onset of the focal rash and continuing until the pustules are completely healed. Anything

[2] The pathophysiology of smallpox is not well known because the disease has been so uncommon in countries where it could most readily be studied. Some nutritional deficiencies are antagonistic to virus infections because of the dependence of the virus on the metabolism of host cells (Scrimshaw, Taylor, and Gordon 1968: 72–73, 81–83, 135, 141). However, any advantage to the host from malnutrition in resistance to smallpox is far outweighed by the disadvantage in reversing the destruction of skin tissue (Dixon 1962: 20).

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with which the patient has come into contact— bedding, clothing, utensils, even the dust of the sickroom—is likely to become contaminated, and the virus may remain alive and infective for up to a year outside the body (Rhodes and van Rooyen 1958: 171–72). A person who has recovered from an infection is thereafter immune to the disease. There are no known cases of passive carriers of smallpox virus, although persons with mild and nondebilitating cases have passed it on to others who suffered severe infections.

These facts have bearing on the natural history and epidemiology of smallpox. Roughly speaking, once the smallpox virus became established in a human host, someone had to be infected with it almost all the time for the virus to survive. There might be periods of up to a year during which the virus subsisted in the dried crust of epithelium shed by a sufferer, but, if the virus could not propagate itself afresh in a previously uninfected person, it would die out. This characteristic is responsible for the guarded confidence now expressed by the WHO that smallpox has been eradicated. Historically, when smallpox has first invaded relatively small, isolated populations with no previous experience of the disease, almost everyone has come down with an infection, leaving the surviving population virtually 100 percent immune. The disease then died out in that population, to be reintroduced from outside when a significant nonimmune group had developed among persons born after the previous epidemic. Without an endemic home in a human population sufficiently large and in sufficiently close contact to guarantee fairly continuous propagation, smallpox would have wiped itself out (Hare 1967: 119–20). Thus, the search for the ancestral home of this disease can reasonably be restricted to a few centers of high population density among the old world civilizations.

Early History of Smallpox in India

For about the last 2,000 years a disease called *masūrikā* has been recognized in the Indian medical compilations. The name is derived from *masūra,* the hard, lenticular orange pulses that are a common part of diets throughout South Asia today; the derivation is based on the similarity of the eruptions of the disease to the color, shape, and consistency of the pulse. Although it does not appear among the diseases mentioned in the *Atharva Veda, masūrikā* is mentioned in the early medical compilations of Caraka and Suśruta, which appear to have taken shape before the Christian era and to have been put in final form by the fourth century A.D. Because *masūrikā* is certainly the term used to designate smallpox in later texts, these early appearances suggest that smallpox is an ancient disease in India. However, as elaborate as Caraka and Suśruta are on many other ailments, they say extremely little about *masūrikā.* Caraka does not include it in the enumeration of diseases, but takes it up briefly, together with measles, in the section on treatment, where it is said to be an eruption of the entire body to be treated like erisypelas and leprosy (Jolly 1901: 93). Suśtra (1915) is slightly more elaborate, offering this description:

> *Masūrikā*—The copper-colored pustules attended with pain, fever, and burning, appearing all over the body, on the face, and inside the cavity of the mouth, are called *Masūrikā.* (13.36; Bhishagratna 1911, 2:90)

This is a good description of smallpox except for one detail: it is taken from Suśruta's discourses on "minor diseases" *(kṣudra-roga),* which consists mostly of cutaneous exanthemata, including acne.

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As is usual, the observations of Caraka and Suśruta are repeated in later medical compilations. The first small but significant addition to the description of *masūrikā* was made by the physician Vāgbhaṭa. In his *Aṣṭāṅgahṛdaya-saṃhitā* (2.5.111) is the following new verse: "He on whose body the *masūrikā,* appearing like coral globules, break out then swiftly vanish, dies quickly" (Jolly 1901: 93; Hilgenberg and Kirfel 1941: 205). This, the first suggestion in Indian medicine that *masūrikā* may be a fatal disease, is not definitely dated, but the evidence points toward the seventh century, and perhaps the early part (Hilgenberg and Kirfel 1941: xv; Filliozat 1964: 14; Meulenbeld 1974: 424). In other words, Vāgbhaṭa was probably a contemporary of the Christian physician Ahrún of Alexandria, who wrote the first treatise in the Mediterranean world definitively identifying smallpox and measles (Greenhill 1847: 164).

The *Nidāna* of Mādhava-kara, composed early in the eighth century, included an extensive and knowledgeable chapter (54) on *masūrikā,* treating measles and chickenpox together with smallpox, all of which seem to have been quite familiar to him (Mādhava-kara 1920: pp. 355–60; Meulenbeld 1974: 19–20). Thus, it appears on the evidence offered by the early medical authorities, that in India smallpox became widespread enough to be quite familiar, and dangerous enough to demand careful attention in the course of the seventh century—the same century in which it was established in the countries around the Mediterranean (Greenhill 1847: 101–105). The antiquity of smallpox as it was known until its recent eradication, at least as far as India is concerned, is not as great or as obscure as has often been thought. But this was well understood over a century ago by the sage physician of Dacca, Dr. Thomas Alexander Wise, who wrote of the early Indian descriptions of *masūrikā* (1867):

> It may have changed its character, like some other diseases, from unknown causes, but it is more probable that the peculiar and dangerous epidemic, small-pox, is a new form of disease. According to this opinion, it is at a much later period that the small-pox is described by Hindu writers in its present formidable form; probably not long before Rhazes described it [ca. A.D. 910], some time after which it appeared in Europe. (2:108–109)

In addition to making clinical distinctions among numerous types of pustular eruptions, Mādhava also supplied humoral and dietary explanations for the various forms of smallpox, measles, and chickenpox. If the underlying theory is accepted, Mādhava's treatment of the poxes was exclusively biological, and his commentators in the twelfth and thirteenth centuries followed his lead in this respect, not raising the name of any deity or demon in connection with these diseases. However, someone unknown—possibly one of the commentators—probably about the late fifteenth or early sixteenth century added an appendix *(pariśiṣṭa)* on "The Pathology of Śītalā" to his text (Mādhava-kara 1920: 494–95). The appendix provides an account of pox eruptions complementary to that given in the text, but based on the theory that they are caused by the Goddess Śītalā. There is a hint of this new theory of pox in the twelfth century commentary of Ḍalhaṇa at Suśruta 2.13, which identified *śītalikā* as the "popular designation" of *masūrikā* (Suśruta 1915: 250). Since smallpox is characterized by fever, the typical treatment that was developed in India emphasized continuous cooling of the patient throughout the course of the disease. Jolly (1901: 94) thinks the use of *śītalikā,* a feminine form meaning "cool one," is derived from the therapy prescribed.

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The *Bhāva-prakāśa,* an early sixteenth century medical text compiled by Bhāva Miśra (1958: 375–82), greatly elaborated the discussion of smallpox. He repeated everything Mādhava had said about the malady and added a detailed section on the therapy appropriate to different types of pustules. He included the appendix on the pathology of Śītalā within his text and added to it both recommendations for the medical treatment of *śītalā* and instructions for the worship of the Goddess: "A Brahman, possessed of faith, should recite the hymn of Śītalā Devī in the presence of *śītalikā*; then *śītalā*s abate" (p. 380). This hymn speaks repeatedly of the "terrible fear" or "dreadful calamity of pustules" *(visphoṭakabhayaṃ mahat/ghoraṃ)*, language which is absent from the earlier discussions of smallpox. Diseases, it seems, are for physicians, but calamities are for priests.

By the sixteenth century in India, there were two fully fledged interpretations of smallpox: one based on the biology of humors and diet of Ayurveda and deriving appropriate therapeutic procedures from it, the other based on the conception that the disease is a divine affliction and stipulating that the worship of Śītalā is indispensable to treatment. The one element that proved most significant to European observers in the eighteenth century—the procedure for inoculating the smallpox, or variolation—is, however, not present in Bhāva Miśra's discussion, nor is it found in any of the earlier texts.

Variolation

Intentional infection of a nonimmune person with smallpox under conditions conceived to produce a mild case was widely practiced in many parts of the world before the introduction of the Jenner vaccine in 1798, and for a considerable time thereafter.[3] This practice depends on the ability to distinguish among smallpox, chickenpox, measles, and scarlet fever, because an inoculation with measles, for example, would not produce immunity from smallpox. Thus, it is unlikely that variolation was used prophylactically in the Western world before the tenth century. Although it was contested by some authorities, the theory that smallpox was caused by a "fermentation of the blood" rather than by a factor extrinsic to the body prevailed among European physicians into the late seventeenth century (Rolleston 1937: 17). Notwithstanding the learned theory, however, European peasants practiced variolation at least as early as the seventeenth century; physicians began to adopt it during the eighteenth (Langer 1976). Accounts of variolation techniques used in

[3] There is a great deal of recent research on variolation motivated by concern with a variety of questions, such as demographic history, the history of immunology, and public health in colonial societies. Razzell (1977: 140 ff.) presents very extensive evidence from the British Isles to show that, before the introduction of the Jenner vaccine, smallpox had largely been transformed into a nonfatal childhood disease through the widespread practice of variolation. The operation is known to have been introduced into Britain from Turkey early in the eighteenth century, although rural people may well have had versions of their own before that time. Where variolation was invented, and—more interesting—what kind of premodern biological theory made such an invention possible and intelligible, is not settled. Joseph Needham (1980; Needham and Lu 1962: 465–66) presents evidence that it was a Chinese invention, passed to the rest of the world. However, the Chinese usually introduced the virus by blowing powdered pox scabs into the nostril, whereas cutaneous scarification was the method recorded in India and the Near East in the eighteenth century. More than one invention of variolation—and, perhaps, different theories of how immunity was engendered—seem quite probable. Wherever the procedure originated, Greenough (1980: 347) has found evidence that it was practiced widely enough in Bengal, even after the introduction of vaccination, to have a significant effect in reducing the smallpox mortality rate.

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Turkey became the basis for a wide range of experiments with methods, including means of attenuating the virus, in England and on the Continent (McVail 1893: 408–416). Variolation continued as a prophylaxis in competition with vaccination in the nineteenth century, but it lost ground because of two important disadvantages: although the average variolated case was milder than the average case contracted naturally, there was no means of guaranteeing this result, so there were occasional instances of death and disfigurement, and variolated cases were fully contagious, thus contributing to the spread of the disease.

Variolation, also known as "inoculation of the smallpox," was called in Bengali *ṭikā* (derived from the Sanskrit *vaṭikā,* a small lump or globule), the term later used to refer to vaccination. It was based on the idea that smallpox was produced from a seed *(bīja)* mixed with the blood of a person, implying a theory of infection not contained in the Ayurvedic humoral explanation of the disease. In other words, Śītalā did not stand in the way of advancing clinical knowledge of smallpox. Since the subject engaged such keen interest in England, several observers who encountered variolation in Bengal recorded descriptions of it. In 1731 one Robert Coult in Bengal wrote in a letter to Dr. Oliver Coult in England (Dharampal 1971):

> Their method of performing this operation is by taking a little of the pus (when the smallpox are come to maturity and are of a good kind) and dipping these in the point of a pretty large sharp needle. Therewith make several punctures in the hollow under the deltoid muscle or sometimes in the forehead, after which they cover the part with a little paste made of boiled rice.
>
> . . . . . .
>
> The feaver insues later or sooner, according to the age and strength of the person inoculated, but commonly the third or fourth days. They keep the patient under the coolest regimen they can think of before the feaver comes on and frequently use cold bathing. (pp. 141–42)

Dr. Edward Ives (1773: 54), a British naval surgeon, observed a procedure very similar to that described by Coult when he visited Bengal in 1755. The Dutch naval commander Stavorinus (1798) visited the Dutch factory at Chinsurah in Bengal in 1770. He wrote: "Inoculation is known among the Bengalis, who practice it by powdering some smallpox particles, which they make the patients swallow in some liquid. There are very few who use it for insertion" (pp. 325–28). This remark, evidently based on hearsay evidence, was sharply challenged by Cossigny (1799, 2:110), who cited observations of the insertion of the virus in an incision on the left wrist as the procedure of inoculation used at the Portuguese settlement in Bandel, Hooghly.

Dr. Francis Buchanan (1808) witnessed inoculation early in the nineteenth century in Dinajpur District (pp. 12–14). Matter freshly extracted from pustules on the body of a smallpox victim was introduced into small needle punctures made in the skin of uninfected people, usually children between three and ten years of age. Buchanan said that the inoculators were local cultivators, both Hindu and Muslim, who were not otherwise esteemed as physicians. In the 1840s the smallpox inoculators in Dacca were garland-makers and barbers; medical specialists of the high-ranking Vaidya caste did not perform this operation (Wise 1867, 1:lxxxviii; Risley 1891, 2:61–62). The Rev. William Ward (1970 [1822], 1:96) of Serampore, early in the nineteenth century, noted that Daivajñas, low-ranking astrologer Brahmans, were inoculators. In the latter half of the nineteenth century, Risley (1891) wrote that

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it was an occupation of barbers (Nāpit), who "possess a textbook, Vasanta-tikā (Smallpox-inoculation), but few study it" (2:128).

In the light of these observations, the experiences reported in Holwell in 1767, presumably from Calcutta, take on additional significance. He says:

> Inoculation is performed in Indostan by a particular tribe of Bramins, who are delegated annually for this service from the different Colleges of Bindoobund [Brindaban], Eleabas [Allahabad], Banaras, &c. over all the distant provinces; dividing themselves into small parties, of three or four each, they plan their travelling circuits in such wise as to arrive at the places of their respective destination some weeks before the usual return of the disease; they arrive commonly in the Bengall provinces early in February, although they some years do not inoculate before March, deferring it until they consider the state of the season, and acquire information on the state of distemper. (pp. 146–47)

Whatever kind of Brahmans these may have been—and inoculation, like other occupations that require bodily contact with heterogeneous persons, is not an estimable job for a Brahman—they were certainly specialists. This interpretation is further borne out by the elaborateness of their procedures. They made the insertion anywhere on the body but preferred the outside of the arm. The spot chosen was rubbed vigorously with a dry cloth for eight to ten minutes, then fifteen or sixteen minute incisions were made in a small circle using a steel tool about four and a half inches long—"the instrument is precisely the same as the Barbers of Indostan use to cut the nails, and depurate the ears of the customers." A small wad of cotton "charged with the variolous matter" and moistened with two or three drops of Ganges water was placed on top of the wound and allowed to remain in contact with it for several hours. "The cotton, which he preserves in a double callico rag, is saturated with matter from the inoculated pustules of the preceding year, for they never inoculate with fresh matter, nor with matter from the disease caught in the natural way, however distinct and mild the species" (pp. 150–53). Throughout the operation, the inoculator continuously recited the worship of the Smallpox Goddess, Guṭikā Ṭhākurāṇī. Thus, although procedures for smallpox inoculation were known and used in mid-eighteenth century Bengal, the specialists were itinerants from up-country, who had superior procedures, including means of attenuating the virus, and who called the goddess not by the Sanskrit Śītalā, used in the medical texts, but by a vernacular name.[4] By the beginning of the nineteenth century the technique was established among a variety of Bengali inoculators. It is difficult to prove anything on the strength of Holwell's remarks, but they suggest that smallpox may have been better known in northern India than in Bengal in the early eighteenth century.

The History of Śītalā

The Smallpox Goddess emerged in the medical texts about the beginning of the sixteenth century and, although the earliest reference does not contain a description of the goddess that would allow us to identify her decisively with her later familiar

[4] Holwell's transcription, *Gootee ka Tagooran,* leaves some doubt about the language spoken by the inoculators. Since the deity designated is female, *Tagooran* may safely be read as *ṭhākurāṇ,* from *ṭhākurāṇī,* a feminine form of *ṭhākur,* "lord." In Hindi, one would then expect *guṭī kī ṭhākurāṇī,* "Goddess of Smallpox," but this is awkward and improbable. A preferable reading is *guṭikā ṭhākurāṇī,* "Smallpox Goddess," a form that can be produced in several languages. This might all be sterile philology were it not that, nowadays at least, it is only in Orissa that the Smallpox Goddess is known as Ṭhākurāṇī (Roy 1927: 217–23).

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form, there are several twelfth century icons that are unambiguous. An image from a temple at Modhera in Gujarat shows her mounted on an ass, naked, a winnowing fan on her head. There is a similar figure on the outer wall of a twelfth century temple at Sejakpur in Saurashtra.[5] Another from Osia in Rajasthan, carved into a temple constructed in 1178, depicts the same conception (Majumdar 1965, Pl. LII; India, Archaeological Survey: 109). Several images of Parṇaśabarī, a Mahayana Buddhist goddess of diseases, unearthed from a tenth to twelfth century site in eastern Bengal, clearly depict Śītalā: she rides an ass, carries a broom in her right hand and a winnowing fan in her left (Bhattacharyya 1958: 196–97, 232–33, Figs. 140, 173, 174; Sahai 1975: 239–42). It is over a thousand miles from Gujarat and Rajasthan to Bangladesh, and it is highly improbable that such an iconographic innovation would appear simultaneously in widely separated regions. The absence of similar images in the intervening areas is, no doubt, due in part to Muslim iconoclasm, but, most likely, there are some specimens that I have not yet located.[6]

The historical connection between Śītalā and the ancient pilgrimage place of Banaras is a recurrent theme in the Sanskrit writings about the goddess, but evidence concerning the antiquity of this connection is extremely scarce, if only because most of the temples in the city have been destroyed and rebuilt several times over (Sukul 1970: 717). A recent observer includes a temple of Śītalā Devī among the city's most ancient temples (Eck 1978: 177). Meena Kaushik (1979) reports that Śītalā-mātā

> is worshipped by all castes in Varanasi. She has a large temple dedicated to her at Shitala Ghat. . . . This temple has one entrance which opens towards the North and the deity faces the East. The main idol of Shitala-mata occupies the central place in the temple, and is made of silver. (pp. 17–18)

Early in this century Havell (1905) saw the temple of Śītalā Ghāṭ:

> It is a small box-like structure, without any attempt at architectural embellishment, but it is, nevertheless, much frequented by worshippers anxious to avert the evil influence of the goddess. She is represented by an old piece of stone-carving from which almost every detail has been obliterated, placed on a repouseé shrine of modern workmanship.[7] (pp. 113–14)

Sherring's detailed account of Banaras in the mid-nineteenth century does not mention Śītalā Ghāṭ. He discusses four temples devoted to this goddess, but all of them appear to be small shrines included in the compounds of Śaiva temples (Sherring 1968: 65, 85, 100, 130).

It is tempting to find in this progression of temples evidence of the recent rise of a cult of Śītalā in Banaras. However, the oldest Sanskrit literary evidence concerning

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[5] I am indebted to Dr. Jyotindra Jain of the L.D. Institute of Indology, Ahmedabad, who kindly supplied this information as well as an excellent photograph that he made of this image in 1978.

[6] There are archaeological suggestions of the goddess's early appearance in the intervening region, such as a Śītalā temple in Gaya containing a late eleventh century inscription of King Yakṣapāla (Kielhorn 1887; Banerji 1915: 95–97; Patil 1963: 40; Sircar 1965–66). But the temple itself is undated, there is no description of the goddess, and the inscription, which makes no mention of Śītalā, may have been originally in another temple.

[7] Havell (1905) includes a photograph made within the temple looking outward over a large Śiva *liṅga* through an unadorned rectangular doorway (p. 114). Greaves (1909) has a photograph of the temple seen from the north, probably from the celebrated Daśāśvamedha Ghāṭ (p. 43). Greaves (1909: 55) and later writers on the city (e.g., "Old Resident" 1918: 85) mention a second Śītalā Ghāṭ south of the Pañca Gaṅgā Ghāṭ.

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the goddess connects her to this city at a much earlier date. In the midst of Bhāva Miśra's sixteenth century discourse on the variety of smallpox known as Śītalā, he quotes a *Śītalāṣṭakastotra* (Eight-part Hymn of Śītalā) said to be taken from the *Kāśī-khaṇḍa,* or section on Banaras, of the *Skanda Purāṇa.* Although the published editions of the *Kāśī-khaṇḍa* do not include this hymn, versions of it are often repeated in modern *smārta* compilations and it has appeared as a separate publication.[8] I quote here a section from it:

> I celebrate the goddess Śītalā—mounted on a donkey and having as her garments the quarters of the world [i.e., naked]—whom, having approached, one may turn back the great fear of pustules.
>
> Whoever, afflicted by fever, should say, "O Śītalā! Śītalā!", his dreadful fear of pustules immediately vanishes.
>
> A man who, having resolved in his mind in the midst of ablutions, should deeply revere you, in his family the dreadful fear of pustules does not arise.
>
> O Śītalā, for a man scorched by fever, become foul smelling, and whose vision is destroyed, you they regard as the living medicine.
>
> I bow down to Śītalā Devī, mounted on a donkey, having for garments the regions of the world, accompanied by her broom and pot, and having her head, decorated with a winnowing basket. (Bhāva Miśra 1958, 2:380; cf. *Śabdakalpadrumaḥ* 1931–34, *s.v. masūrikā*)

The close correspondence between the description of the goddess in this passage and the twelfth century icons clearly indicates a common source.

During the sixteenth century, at about the same time that Bhāva Miśra was creating a place for Śītalā in the medical literature, the great Bengali *smārta* Raghunandana Bhaṭṭācārya was creating a place for her in the Hindu religious year (Kane 1930–62, 5:428). "Śītalā's eighth" (Śītalāṣṭamī) is the eighth lunar day of the dark fortnight of Phālguna; it may fall between the middle of February and the

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[8] The *Skanda Purāṇa* is one of the longest of the Sanskrit *purāṇa*s and was assembled over a long period of time, beginning as early as the eighth century and extending into the twelfth or thirteenth century A.D. (Hazra 1975: 165). The *Kāśī-khaṇḍa* includes material from the later part of the period, although Wilson (1864: lxxii) thought most of it to be earlier than A.D. 1194. The *Śītalāṣṭaka* (Purāṇas n.d. and 1947) is not found in the published versions of the *Kāśī-khaṇḍa* (Purāṇas 1908–09 and 1960–62). The editor of the Bengal edition of the *Skanda Purāṇa* (1911) used the Bombay edition (1908–09) as the basis for his text, but included additional sections found in manuscripts of the work from Bengal (Hazra 1975: 157); apparently, a *Śītalāṣṭaka* was not among them. Thus, the questions of when Śītalā appeared in Banaras and how her verses came to be included in or omitted from the *Kāśī-khaṇḍa* cannot be settled on this evidence. However, the *Āvantya-khaṇḍa* (Pt. 1, *Avantī-kṣetra-māhātmya*), the section dealing with Avantī or Ujjayinī in Central India, in all three printed *Skanda Purāṇa*s includes the following *adhyāya*: "Sanatkumāra said: To the north of the Vidyādhara *tīrtha* [a place of pilgrimage for bathing] there is a *tīrtha* known as Markaṭeśvara [Lord of Apes]; that *tīrtha* is famous and is a fulfiller of all desires. The person who bathes at that *tīrtha* receives the benefit of donating a hundred cows, and the pustules *(visphoṭa)* of children disappear. If one measures out and grinds *masūra* pulses there, then, by the power of Śītalā, children recover unblemished. The troubled person who views Śītalā with devotion is never again afflicted by evil actions or any kind of poverty; and likewise has no fear of disease or planetary afflictions" (5.1.12).

Markaṭeśvara is not located by the modern authorities on pilgrimage places, but if it belongs to the territory of Avantī (modern Malwa), as the text says, then it is likely to have been in communication with the neighboring countries of Gujarat and Rajasthan, and there is no reason to suppose that the text predates the twelfth century images of Śītalā in those locations.

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end of March. The significance of this season will become apparent presently; the significance of the dark lunar fortnight at any time of the year is generally death and inauspiciousness. Other late Sanskrit works on ritual, *tantras*, and digests of observances, also recognized Śītalā, although I know of no work of the sixteenth century or earlier that makes her out to be anything other than a minor deity.

It is difficult to overestimate the importance of the period beginning in the late fifteenth century and extending through the sixteenth in the formation of the Bengali literature and the closely intertwined regional religious culture of Bengal. A great many Bengali compositions—most of them metrical narratives dealing with deities and their worship by human beings—predate this period, but, in numbers, variety, and quality of literary products, the sixteenth century is outstanding. There are Bengali translations of Sanskrit texts about most of the major divinities, as well as compositions relating local traditions about the deities of the Sanskrit pantheon. And there are numerous works concerning deities little known outside of Bengal, often presiding over dangers and threats to life commonly encountered by rural people.

Caṇḍī, the Bengali version of the goddess of the *Devīmāhātmya,* is the subject of what is widely regarded as the greatest work of this class, a long poem known as the *Kavikaṅkaṇa-Caṇḍī* composed in the middle of the sixteenth century by Mukunda Cakravartī (Sen 1975: 2). Among local divinities, Manasā, the Goddess of Snakes, is by far the best represented, being the subject of innumerable texts written throughout Bengal from the fifteenth through the eighteenth centuries (Bhaṭṭācārya 1970: 306–402). Today, in Hindu villages, Caṇḍī, Manasā, and Śītalā are the village goddesses *(grāma-devatā)* par excellence. Therefore it is quite strange to find not a single word about Śītalā in the extensive Bengali literature of the sixteenth century, when she appears to have been well known to prominent Bengali authors writing in Sanskrit at the time. Whatever the cause for her belated acceptance into village pantheons, she cannot be interpreted as having ascended from the Bengali earth into an ever more exalted heaven.

The earliest extant Bengali poem about Śītalā dates from about 1690, coincidentally, the year Calcutta was founded, and was composed in Saptagram, which is not far north of Calcutta.[9] About 1750 a sudden outpouring of compositions began: at least six can be dated to the period between 1750 and 1770, and I have heard indirectly about others that may be dated to 1738 or 1764. Moreover, these texts were all written in a comparatively small locality in southwestern lower Bengal (see Nicholas and Sarkar 1976: 5). The longest and most popular of the Śītalā poems, the one that has been printed and reprinted in cheap editions, nowadays forming the basis for most performances of the narrative of the goddess, and which contains the most elaborate and colorful detail about types of poxes and related eruptions, was composed by Nityānanda Cakravartī (1931). Nityānanda, who evidently knew his smallpox and did not simply rework some patent list of pustules, was court poet of Rājā Rājanārāyaṇ (ruled 1756–1770) of Kāśījoṛā, a small kingdom adjacent to the area of my fieldwork in eastern Midnapur. Nityānanda's composition makes use of many of the usual conventions of poems of this class, but it appears that he had no literary example in writing about Śītalā and that he followed principally local tradition, which included the Sanskrit iconography but went far beyond that in its

[9] The Dutch traveler Baldaeus (1917: 28–33) in 1670 witnessed the worship of the goddess Bhadrakālī as part of the treatment of smallpox in Malabar. By then the disease was evidently well known in that locality, and he relates an elaborate myth concerning its origin.

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creation of a narrative career for the goddess among human beings. In summary, it appears that Śītalā, the Goddess of Smallpox, who had been a minor deity, emerged as a major object of worship in southwestern Bengal during the eighteenth century.

Western Bengal in the Eighteenth Century

The eighteenth century was a time of serious troubles in Bengal. The Mughal empire was in decline, laying the ground for the British acquisition of power. Between 1742 and 1751 the Maratha cavalry repeatedly plundered southwestern Bengal, carrying away whatever they could loot and laying waste to the rest. It is difficult to judge the extent of population displacement resulting from Maratha depredation, but a contemporary Bengali observer saw it as very great (Dimock and Gupta 1965: 26–36). It is usual for land to fall out of cultivation during such a period and for food scarcity, if not famine, to prevail. After their victory at Plassey in 1757, the British gained control over the districts of Burdwan and Midnapur, in western Bengal, as well as Chittagong in the east. The British pressed the zamindars in their concessions for payment of revenues, and, as usual, when the zamindars were under financial duress, they pressed the cultivators. A severe drought in 1769 led to a disastrous famine in Bengal and Bihar in 1770, in which ten million people are estimated to have perished (Sinha 1967: 88). Stavorinus, a Dutch naval commander, who happened to be in Chinsura in 1770, wrote movingly of the tragedy he witnessed (1798) and also said:

> This famine arose in part from the bad rice harvest of the preceding year; but it must be attributed principally to the monopoly the English had over the last harvest of this commodity, which they kept at such a high price that most of the unfortunate inhabitants—who earned only a sou or a sou-and-a-half a day to sustain their family—found themselves powerless to buy the tenth part of what they needed to live.
>
> To this scourge was added smallpox, which spread among persons of all ages and of which they died in great numbers. . . . Mortality could not have but augmented, especially after my departure from Chinsura; Director F. was one of the victims carried off by the smallpox, I learned after leaving Batavia. (p. 125–28)

The Dutch director was not the most eminent victim of the smallpox epidemic that followed the famine of 1770; the Nawab Nazim of Bengal, Saif-ud-daula, also died of the disease in that year (Marshman 1850: 80).

Information about famines prior to 1770 is sketchy, but the Calcutta Consultation Book for July 9, 1711, noted that the British Company waived monthly rents and distributed 500 maunds (about 20 tons) of rice among the poor: "there having been a Famine in the Country for this severall months, so that severall thousands have famished for want of rice. . ." (Wilson 1895, 2:15–16). There were famines again in 1783–84 and 1787 (Greenough 1977: 408).

Smallpox was apparently endemic in Bengal in the eighteenth century and it had an epidemic cycle based on the rate of replacement of the unimmunized population. Holwell observed in 1767:

> The general state of this distemper [smallpox] in the provinces of Bengall (to which these observations are limited) is such that for five and sometimes six years together, it passes in a manner unnoticed, from the few that are attacked with it; for

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> the complexion of it in these years is generally so benign as to cause very little alarm; and notwithstanding the multitudes that are every year inoculated in the usual season, it adds no malignity to the disease taken in the natural way, nor spreads the infection, as is commonly imagined in Europe. Every seventh year, with scarcely any exception, the small pox rages epidemically in these provinces, during the months of March, April and May; and sometimes until the annual returning rains, about the middle of June, put a stop to its fury. On these periodical returns (to four of which I have been witness [1744, and presumably 1751, 1758, and 1765]) the disease proves universally of the most malignant confluent kind from which few either of the natives or European escaped, that took the distemper in the natural way, commonly dying on the first, second, or third day of the eruption. . . . (p. 144)

Holwell observed smallpox epidemics in Bengal at the same time that the principal Bengali narratives concerning Śītalā were being composed. It is difficult to say when the population threshold for smallpox endemicity was crossed in lower Bengal, but it seems likely that it was before 1690, when the first known poem about the goddess was written. The disease was recognized in Indian medicine for about a thousand years before that, and it must have had an endemic home somewhere in the region during the period from the twelfth to the sixteenth century, when it acquired a deity of its own and a prominent place in medical texts. The efflorescence of compositions about Śītalā, containing anguished statements about horrifying pustular diseases, written in the middle of the eighteenth century in a restricted locality along the lower Hooghly River and immediately westward from it, suggests a qualitatively different kind of encounter with smallpox. The testimony is synchronous with turmoil in the Mughal empire, and the area from which it originated corresponds roughly with the territory of the Maratha raids. A large number of displaced people spreading infection more rapidly than usual, interruption of a regular annual schedule of variolations, disruption of quarantine arrangements for freshly variolated children, and malnutrition, owing to land fallen out of cultivation and distressed rent-extraction, exacerbating the death rate, all may have played a part in transforming smallpox from a disease into a calamity. However, there is no way of showing how any or all of these elements might have presented themselves to a person in eighteenth century Bengal, so I shall leave this picture in impressionistic form and turn abruptly to the twentieth century. It is always easier to search where the light is brighter.

The Endemic-Epidemic Cycle

The twentieth century statistics on reported smallpox mortality represented in Figure 1 give a crude quantitative dimension to the endemic-epidemic cycle. The statistics are, of course, rough: they are reports of mortality rather than of infection, mostly provided by village watchmen who were rarely literate, not to say lacking in clinical diagnostic skills; and vaccination was widespread, reducing the mortality rate. Nevertheless, it is safe to say that the peaks on the graphs show epidemics of smallpox. The districts selected for detailed examination are all, of course, rural and agricultural: Dacca is densely inhabited, lying in the well-watered delta in the east; Mymensingh is also in the east, but has only moderate population density, and the best agriculture of the four sample districts; Murshidabad is an old delta district in western Bengal, with moderate population density and average agricultural productivity; Midnapur is active delta on the eastern half, but raised gradually toward Chota

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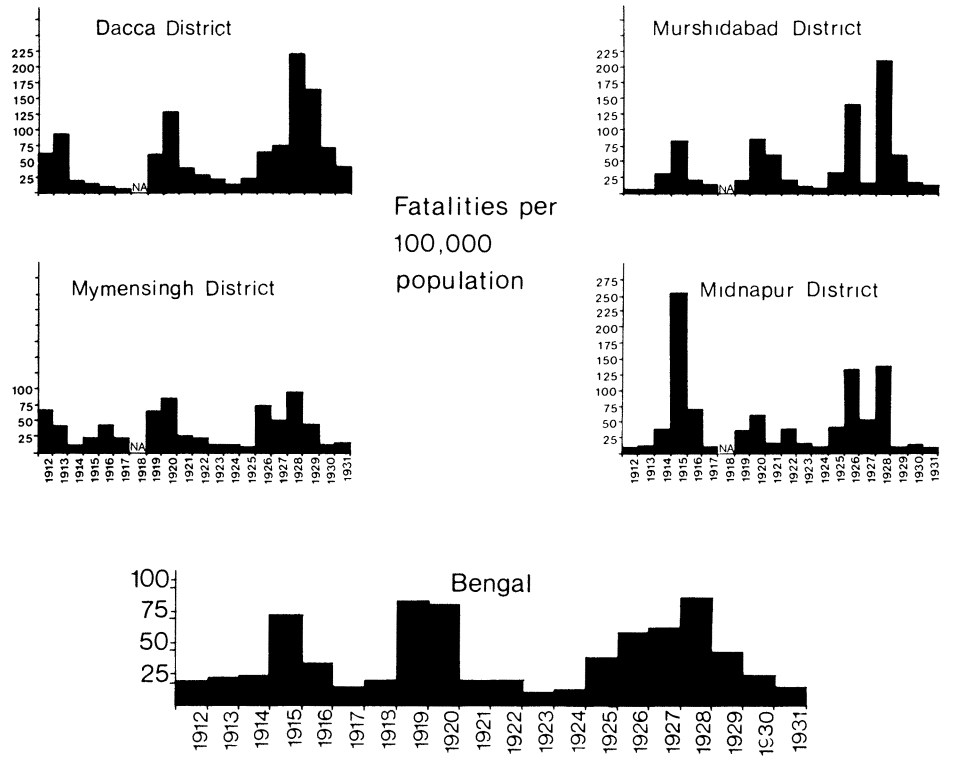

Figure 1. Annual Smallpox Mortality in Bengal and Selected Districts, 1912–1931
Sources: Bengal, Sanitary Commissioner (1912–1931); India, Sanitary Commissioner (1918).

Nagpur in the west, so that population is dense and agriculture good in the east, but both decline toward the west.

Over the twenty-year period between 1912 and 1931, Bengal as a whole had three smallpox epidemics, in 1915, 1919–1920, and 1928. The 1915 epidemic was predominantly in western Bengal, 1920 in the east and north, and all parts shared in the 1928 epidemic. Only Dacca demonstrated a regular endemic-epidemic cycle: the epidemic of 1913 was followed by four or five years of low death rates, a gradual buildup in 1919 toward a major epidemic in 1920, a regular progression downward for four years, then upward for three to the terrible epidemic of 1928, which did not cease until 1929. In each of the other sample districts, additional variables intrude into the demographic process of accumulating nonimmune youngsters in the population. Four variables are largely responsible for the erratic pattern of epidemics in Mymensingh, Murshidabad, and Midnapur: (1) the movement of people between centers of infection, principally in urban areas, and the countryside, (2) vaccination, (3) rainfall, and (4) food supply. They were probably of different relative importance in each district.

1). Pilgrimage places, particularly Puri in Orissa, were foci of infection for the Bengal countryside before the twentieth century. In addition to these centers, in the 1912–1931 period there was increased movement of people between villages and Calcutta, district headquarters, and divisional towns such as Dacca. Such movement

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spread smallpox more rapidly throughout the region than occurred during the eighteenth or nineteenth century.

2). Vaccination was differently regarded by different groups of people in various parts of Bengal during this period. Among Hindus, some government vaccinators usurped the roles of the old inoculators, becoming priests of Śītalā. However, there were die-hard communities and localities that refused to have anything to do with what appeared to be interference in the domain of Śītalā. Resistance to vaccination among uneducated Muslims was frequently quite strong. Thus, it was difficult to obtain a uniform pattern of vaccination in an epidemic locality.

3,4). Rainfall and food supply are closely linked to one another, and each is independently connected to smallpox epidemiology. Malnutrition increases the chance of infection and the chance of mortality due to infection; the food shortages that produce malnutrition usually follow droughts. Holwell noted that smallpox raged epidemically in the hot, dry months just before the onset of the monsoon in mid-June, and that it declined with the rainy season. Subsequent epidemiological research has shown that the transmissibility of the smallpox virus declines with increased atmospheric humidity (Rogers 1926; Russell and Sundararajan 1929). In addition to reducing the size of the harvest, thus bringing about malnutrition and its infectious sequelae, a drought also increases the transmission of smallpox viruses and the risk of infection.

The unexpected increase in smallpox mortality in Bengal in 1919 is explained in part by the fact that 1918 was a year of below-average rainfall and a correspondingly low rice harvest. This relationship is presumably an old one, preexisting vaccination and metropolitan foci of infection in Bengal, and it is culturally acknowledged in a way. Famine, disease, and rapacious tax-collectors are seen as connected to one another—and, at a certain level, as naturalistically connected. That is, the links between low rainfall and low rice harvest, low rice harvest and increase in the proportion extracted as revenue, increase in revenue and dimunition in nutrition, reduced diet and increased disease are all clearly made by ordinary people in rural Bengal. But what they add up to is more than the sum of the parts, often dramatically characterized as the cataclysmic end of the present cosmic epoch (*yugāntara* or even *manvantara*), when chaos and universal destruction reign. Behind such widespread distress lies the general sinfulness of human beings, who neglect their gods and their dharma. Agriculture, meteorology, disease, and nutrition have been studied in a recognizably scientific way for a long time in India. But the sciences have not provided a root answer to the "why" of human suffering. It is to provide a meaningful—that is to say, fundamental and adequate—answer to the "why" of smallpox that Śītalā comes to be fitted into the already crowded Bengali pantheon.

The Structural Advent of Śītalā

The places of Śītalā in village pantheons and in the religious year seem so obvious and so integral as to create the illusion of eternity. Yet the historical evidence is that these systems were opened up to incorporate her, then closed around the innovation without revealing a trace of the original disturbance. The historical track of such a change is difficult to follow, but the structure of the calendrical and ritual systems into which the goddess was received make it possible to discern something about the process.

"In twelve months, thirteen festivals," the Bengalis say with rare and uncharacteristic restraint. There are, in fact, about a hundred important rites held around a typical

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year in a Bengali village. However, all of these rites belong to a limited number of contrasting sets, of which the most important ones—the ones that give the structure to the whole year—may be called the "rites of autumn" and the "rites of spring." The central autumnal rite is Durgā Pūjā, fixed on the lunar calendar, and, before the organization of modern "committee *pūjās,*" carried out by Hindu kings and their petty successors under the Mughals and British, the zamindars and related rural magnates. The Durgā Pūjā was traditionally given by a single *yajamāna* for the benefit of his family, household, and subjects, all arranged in hierarchical order on the model of the ancient Indian royal sacrifice. The social universe of Durgā Pūjā is a conceptual kingdom, however devoid of sovereignty it may nowadays appear.

The principal rite of spring is the Gājan, a "popular" *(laukika)* ritual for which authority is not found in Sanskrit texts. This ritual is directed to Śiva, conceived to be the husband of Durgā and the fertilizer of the earth. Its dates are fixed on the solar calendar and it is carried out by ordinary villagers with comparatively little participation by high caste people. However, not every village possesses a Śiva temple, and only a few are equipped to perform the Gājan. Although it is done in villages and by villagers, it is not thought to be for the benefit of villages but rather for the whole universe.

Villages also possess deities of their own, conceived to be peculiar to the persons and localities delimited by particular village boundaries. These deities, sometimes inchoate stones that manifested themselves in the earth of the village, sometimes old sculptured images, or pottery or brass figurines, are housed at the feet of especially significant trees or in small temples, where they are often given regular service and worship year-round. Goddesses are more numerous than gods among village deities, and Caṇḍī and Manasā hold places of importance in many villages. However, in the deltaic portions of lower West Bengal today, Śītalā is the most usual village deity. She often appears alongside Manasā, but where I have found the two together, it is Śītalā's worship that sets the schedule; Manasā is not ignored, but she is worshiped on the occasions of Śītalā worship and as an adjunct to her. The conception that it is a particular village and not any other unit that receives the benefit of her worship is in some instances enacted by processions circumambulating the village, planting flags where paths cross the village borders, or otherwise bounding the village before her *pūjā* is begun. In other words, the social niche where Śītalā found her place is predominantly the village. In eastern Midnapur District, individual village Śītalās are most commonly called "Mother of such-and-such village" *(amuk grāmer mā),* the name Śītalā being reserved for occasions of worship. In some instances it would appear that she usurped the place of an earlier village mother, often a rough stone Caṇḍī, and subordinated a more highly marked goddess, such as Manasā, in taking her present position.

Finding the appropriate place for her elaborate annual worship (see Nicholas 1978) was a different kind of problem, and one that is solved in somewhat idiosyncratic ways by various villages even now. The sixteenth century Bengali authority on the *śāstras,* Raghunandana, assigned the eighth lunar day of the dark fortnight of Phālguna (February–March) to her worship.[10] This is not the kind of decision an

[10] Two other lunar days are mentioned quite often as appropriate for the worship of this goddess, Śītalā *saptamī* (*śīlī sātama* in Gujarati), the seventh day of the bright lunar fortnight in Srāvaṇa (July–Aug.), and Śītalā *ṣaṣṭhī,* the bright sixth of Māgha (Jan.–Feb.). (See Underhill 1921: 105; Stevenson 1920: 306–307; and Wadley 1980, especially the last, for a discussion of textual authorities and full translations of stories appropriate to these occasions.) Both of these dates

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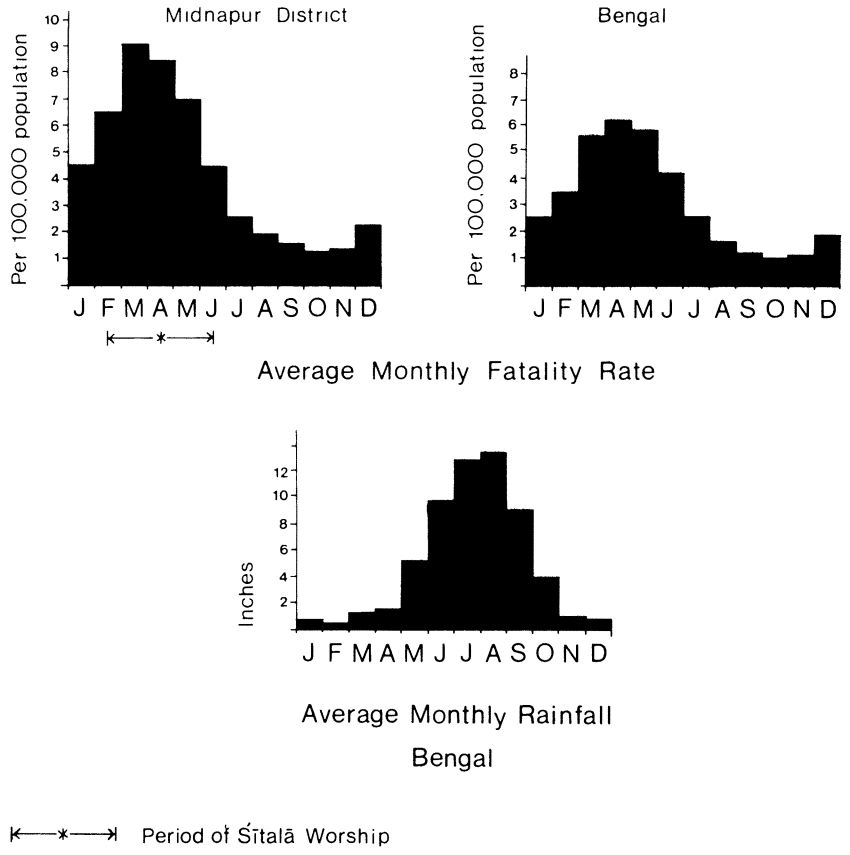

Figure 2. Monthly Smallpox Mortality Rate in Relation to Rainfall, Bengal and Midnapur Districts, 1912–1931.

Sources: Bengal, Sanitary Commissioner (1912–1931), Department of Agriculture (1912–1931); India, Sanitary Commissioner (1918).

erudite Brahman would reach arbitrarily, and it most likely reflected what was then known as "learned practice" *(śiṣṭācāra).* Apart from the appropriateness of the dark lunar fortnight to the worship of a goddess who controls death and destruction (Das 1977: 97–99), how did the month of Phālguna come to be chosen for the worship of Śītalā? Since the transmissibility of the smallpox virus is retarded by atmospheric moisture, the data displayed in Figure 2 are what might be expected: average monthly mortality rates from smallpox were at their highest during the hot, dry months from February through May, then declined abruptly in June with the onset of

are, in different regions, considered appropriate for the observance of "cold-hearth" rites, that is, days on which no cooking is to be done. The goddess Śītalā worshiped on these occasions is not treated as mistress of smallpox but as "The Cool One" who is offended if the hearth is heated. There is a Sanskrit *vrata-kathā* for Śītalā *saptamī* in the *Bhaviṣya Purāṇa*; it is repeated in modern manuals for Bengali priests (Bhaṭṭācārya 1973–1974: 267–69) but the *vrata* is not, to my knowledge, observed in Bengal. It is observed in Gujarat, and a Gujarati version of this story is related by Wadley (1980).

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the monsoon rains. The seasonal pattern of smallpox outbreaks is now a fact deeply lodged in Bengali culture. While the earlier Sanskrit name for smallpox—*masūrikā*—has not been forgotten, it has been replaced in common parlance by the term *basanta,* which was earlier simply the name of the spring season. If a term is sought to distinguish smallpox from springtime, it is usually *basanta-roga,* "spring disease."[11]

It is not only in the language that the seasonal pattern of smallpox is given clear and explicit recognition. Spring is also the season when the elaborate annual worship of Śītalā is carried out by each village. Raghunandana's date, for practical purposes today, marks the beginning of the period of Śītalā worship in southwestern Bengal.[12] And worship continues, in different villages at different times, over the next four months, until the rains begin. The occasions of worship are spread out for a variety of reasons, but the most important ones have to do with the necessity of staging a complete, more or less fully dramatized, enactment of Nityānanda Cakravartī's version of the Śītalā myth (see Nicholas 1978: 171–74). The singers and musicians who present these performances are specialists who come from other villages and work fairly steadily throughout the smallpox season. They book their engagements in advance, agreeing to perform for one to ten nights, according to the desire of the village and its ability to pay. Payments are made out of contributions subscribed by village families, and willingness to contribute is usually directly linked to the moral well-being of the village at the approach of spring. Moral well-being means freedom from factional strife, not a common condition in the political environment of West Bengal since 1950. Most of the observances of Śītalā worship that I have seen occurred later rather than earlier in the season. In general, it seems that, as the time available for a proper splendid worship diminishes, a vague anxiety begins to mount, and with that anxiousness comes increased willingness to put aside differences for the sake of the village's goddess. Like a mother pulling together her quarreling sons so as to remind them that they are both equally offspring of her body, Śītalā once each year quietly but forcefully draws together the sons of her village and makes them forget—at least for a while—politics and the pursuit of selfish ends.

Conclusion

With a schoolteacher's penchant for classification and enumeration, the classic of Indian statecraft, the *Kauṭilīya Arthaśāstra* lists eight "great calamities of divine origin" that may strike the kingdom: fire and flood, disease and famine, rats, wild animals, serpents, and evil spirits. In a later passage, under the heading of "divine afflictions," the list is reduced to five: fire and flood, disease and famine, and epidemic (4.3.1; 8.4.1; Kangle 1969: 133, 211, and 1972: 262, 397). Although these afflictions are attributed to divine agency, there is no suggestion of fatalistic resignation in the *Arthaśāstra.* There are policies to be pursued and effective actions to be taken just as when the kingdom is threatened by human enemies. Ayurvedic medical texts composed at different times over the career of smallpox in India express a closely

[11] Chickenpox is called *pāni-basanta* (waterpox), and measles is called *hām-basanta,* from an Arabic term for the disease.

[12] In the Salkia section of Howrah city, the principal worship of Śītalā is done on the full-moon day of Māgha (Jan.–Feb.). Aditi Nath Sarkar has made a film of the splendid *snāna-yātrā* given to the twenty-two Śītalās of this locality.

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related attitude toward that disease, even while they move toward the recognition of the goddess behind it.

Although a disease resembling smallpox—and called by the same name *(masūrikā)* later used for what is undoubtedly smallpox—is mentioned in one of the oldest Indian medical texts, it was not described as serious or as sometimes fatal before the seventh century. By the first half of the eighth century, however, medical knowledge of the disease was well established. The etiology of smallpox in these texts is based on a biological theory about diet, heat, and bodily humors used to explain most other ailments. Then, in about the twelfth century, Śītalā, the Goddess of Smallpox, was introduced as a second form of explanation for the disease. The Goddess did not displace the naturalistic medical picture of the disease; a progressively more refined rational therapy was developed at the same time as her worship. But, while the treatment of a person suffering from a disease was the work of a physician, an epidemic was a divine affliction of the whole kingdom against which doctors were helpless.

The mid-eighteenth century, when Śītalā suddenly became so important in southwestern Bengal, was a time of turmoil that came perhaps as close to anarchy as most people might ever have known it. What remained of Hindu kingdoms in the region had mostly been converted into agencies of the Mughal revenue-collecting apparatus. As Mughal authority evaporated and, in the ceded districts, the British sought a way of supplanting it, the Maratha cavalry claimed everything it could carry away. It is likely that people, displaced from their homes during this period, spread the smallpox virus more rapidly than usual and that widespread malnutrition increased the death rate. The famine of 1770 showed too clearly the fatal interaction of drought, malnutrition, and smallpox: failure of the monsoon in 1769 led to a severe food shortage in 1770; the ensuing smallpox epidemic carried away some millions of the weakened population.

This experience, over two centuries in the past, is registered today in the preeminent cult of the villages in the afflicted region. Domestic worship of Śītalā is not prohibited, and it is occasionally performed by a family in which a child is suffering from measles or chickenpox. But the most usual ritual carried out by the village as a collectivity for the benefit of all its residents and not others is the worship of Śītalā. Among fellow villagers, shared awareness of a common fate might persist even when the kingdom had fallen into disunity, and—on the evidence from contemporary village rites—might serve to reunite them when parties and interests from outside the village had led them into disunity. Some of the most significant "natural facts" about smallpox—its seasonality, the periodicity of epidemics, the method of transmission, and the obtaining of immunity—have been acknowledged in Bengali culture during the epoch of Śītalā's great importance. But Bengalis have subordinated biology to sociology and transformed calamity into community.

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